

**The Grid** Having bought a new toaster, we simply plug it in: the electric power grid removes the need to also buy and install a new generator. By analogy, information technologists refer to “the Grid” when talking about on-demand computing.

Like its electrical namesake, a computing grid is a mix of technology, infrastructure, and standards. The *technology* is software that allows resource providers (whether individuals or institutions) to contribute computers, storage, data, networks, and other resources; it allows consumers to use them when needed. The *infrastructure* comprises the physical hardware and services that must be maintained and operated for the resource-sharing to occur. Finally, *standards* codify the messages that must be exchanged, and the policies that must be followed, to allow a grid to function.

The Internet, Web, and Grid are related but distinct technologies. The Internet is the worldwide system of networks that connects many computers and smaller networks, allowing them all to communicate. The Web is a way of accessing information over the Internet. The Grid is a way of using the Internet to share and manage computing resources that are distributed around the globe.

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